A circuit arrangement with two housing parts is known from EP 0505 292 A1, in which a central divding wall features an offset in a small central section in order in this way to create space in one of the housing parts for a thermal bimetallic element.

The object of the invention is to specify an electromechanical, especially electromagnetic switching device with at least two movable contacts as well as fixed contacts interacting with these, which with a rational contstruction features an especially compact housing subdivided into a number of areas.

In accordance with the invention this object is achieved by an electromechanical switching device with the features of claim 1. In this case two movable contacts as well as fixed contacts interacting with these are arranged in a housing which is essentially divided along an imaginary divding surface which is perpendicular to a fixing side of the housing. By contrast with conventional multipart housings however the dividing surface within the housing preferably features a side offset, in approximately the center of the housing, so that each of the two parts of the housing feature a broader area and a narrower area adjoining it. In this case the narrow area of the second housing part adjoins the broad area of the first housing part and vice versa.

The mounting position of the two circuit arrangements comprising a movable contact and a fixed contact in the housing in each case can be characterized by the direction of operation of the relevant movable contact, in which said contact meets its assigned fixed contact or fixed contacts during the switching process. Preferably the actuation directions of the movable contacts are opposite to one

another. This enables circuit arrangements which do not have a uniform width all the way along to be accommodated in the housing in an especially space-saving way, said arrangements for example being narrower in an area adjoining the fixed contact than in an area adjoining the movable contact. Opposing actuation directions of the movable contacts are not taken exclusively to mean cases in which the angle between the actuation directions amounts to exactly 180°, but also cases in which the angle has any other value of more than 90°.

Preferably the two housing areas are identically formed, but are mirrored around a geometrical vertical axis in the housing, i.e. in each plane they are thus centrosymmetric in relation to the geometrical vertical axis.

Especially suitable is the design of the housing for a switching device which contains two actuators with an immediate response, especially electromagnetic actuators, as well as two actuators with a delayed response, especially thermal actuators. Preferably this type of switching device is employed as a circuit breaker.

Thus, in this preferred embodiment an electromechanical switching device with two actuators which respond immediately and two actuators with a delayed response, with a housing with one fixing side and lengthwise housing sides arranged perpendicular to this is produced, whereby in a first area of the housing adjoining the first lengthwise side of the housing the first actuator which responds immediately of the first transverse housing side is facing the first actuator which responds after a delay of the second transverse housing side and in a second housing area adjoining the second lengthwise housing side the second actuator which responds after a delay of the first transverse housing side faces the second actuator

which which responds immediately of the second transverse housing side.

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Typically the minimum width of a circuit breaker is determined by the dimensions of the electromagnetic actuator as well as an arc splitter chamber where necessary. To accommodate a number of electromagnetic actuators within a standardized housing of a series device, especially with a width of 18 mm, some of the coils used in the prior art employed a cross section which deviated from the circular form. The manufacture

Claims

1. Electromechanical switching device with two movable contact elements (33,34), which each interact with a fixed contact (35,36), with a housing (8) featuring a fixing side (11) of a width (B), which, viewed from above the fixing side, (11) is subdivided into two housing areas (18,19) each adjoining one of the lengthwise sides (15,16), in which one of the movable contact elements (33,34) as well as the associated fixed contact (35, 36) are located in each case, with each housing area (18,19) having a narrow partial housing area (22, 23) and adjoining this a broad partial housing area (20,21), with the broad partial housing area (20) of the first housing area (18) being adjacent to the narrow partial housing area (23) of the second housing area (19) and the narrow partial housing area (22) of the first housing area (18) being adjacent to the broad partial housing area (21) of the second housing area (19).
characterized in that the directions of actuation (R1,R2) of the movable contact elements (33, 34) are opposed to each other.

2. Switching device in accordance with claim 1, characterized in that the two housing areas (18, 19) are formed in an identical way but are mirrored around a geometrical vertical axis A in the housing (8).

3. Switching device in accordance with claim 1 or 2, characterized in that at least one housing area (18,19) contains an immediate-release actuator (2,3).

4. Switching device in accordance with claim 3, characterized in that the width (b) of the immediate-release actuator (2,3) is at least as large as half the width (B) of the housing.

5. Switching device in accordance with claim 3 or 4, characterized in that the immediate-release actuators (2,3) features a coil (29,30) with a round cross-section.

6. Switching device in accordance with one of the claims 1 to 5, characterized in that at least one housing area (18,19) contains a delayed-release actuator (4,5).

7. Switching device in accordance with one of the claims 1 to 6, characterized in that the housing features more than two housing areas (18,19).

8. Switching device in accordance with one of the claims 1 to 7, characterized in that, the housing areas (18,19) contain different circuit arrangements.